BAY AREA 2005 OZONE STRATEGY
AND
DRAFT ENVIRONMENTAL IMPACT REPORT

SUMMARY

OCTOBER 2005

INTRODUCTION

The Bay Area Air Quality Management District (Air District or BAAQMD), in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG), has prepared the Bay Area 2005 Ozone Strategy. The Ozone Strategy is a roadmap showing how the San Francisco Bay Area will achieve compliance with the State one-hour air quality standard for ozone as expeditiously as practicable and how the region will reduce transport of ozone and ozone precursors to neighboring air basins. This document provides an overview and summary of the 2005 Ozone Strategy.

Ozone conditions in the Bay Area have improved significantly over the years. Ozone levels – as measured by peak concentrations and the number of days over the State one-hour ozone standard – have declined substantially as a result of aggressive programs by the Air District, MTC and our regional, State and federal partners. This represents great progress in improving public health conditions for Bay Area residents. The 2005 Ozone Strategy provides useful background information on topics including the Bay Area's emission inventory, historical ozone trends and the implementation status of past control measures.

However, there is still a need for continued improvement to meet the State one-hour ozone standard. Accordingly, the Ozone Strategy describes how the Bay Area will fulfill California Clean Air Act (CCAA) planning requirements for the State one-hour ozone standard and transport mitigation requirements through the proposed control strategy. The control strategy includes stationary source control measures to be implemented through Air District regulations; mobile source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with MTC, local governments, transit agencies and others.

The 2005 Ozone Strategy explains how the Bay Area plans to achieve these goals with regard to ozone, and also discusses related air quality issues of interest including our public involvement process, climate change, fine particulate matter, the Air District's Community Air Risk Evaluation (CARE) program, local benefits of ozone control measures, the environmental review process, national ozone standards and photochemical modeling.

The 2005 Ozone Strategy is a comprehensive document that describes the Bay Area's strategy for compliance with State one-hour ozone standard planning requirements, and is a significant component of our region's commitment to achieving clean air to protect the public's health and the environment.

BACKGROUND

Ozone is the principal component of smog. It is a highly reactive gas that can damage the tissues of the lungs and respiratory tract. High concentrations of ozone irritate the nose, throat and respiratory system and constrict the airways. Ozone also can aggravate other respiratory conditions such as asthma, bronchitis and emphysema. Repeated exposure to high ozone levels can make people more susceptible to respiratory infection and lung inflammation, and permanently damage lung tissue. Children, seniors and people with respiratory illnesses are especially sensitive to ozone's effects. Even healthy adults, working or exercising outdoors during high ozone levels, can be affected.

Ozone is not emitted directly from pollution sources. Instead, ozone is formed in the atmosphere through complex chemical reactions between hydrocarbons ("reactive organic gases" or ROG) and nitrogen oxides, in the presence of sunlight. Ozone levels are usually highest on hot, windless summer afternoons, especially in inland valleys. The main sources of hydrocarbons are motor vehicles and evaporation of solvents, fuels and other petroleum products. The main sources of nitrogen oxides are motor vehicles and combustion.

Ozone is a regional pollutant. Emissions of hydrocarbons and nitrogen oxides throughout the Bay Area contribute to ozone formation, and emissions in one part of the region can impact air quality miles away. Therefore, efforts to reduce ozone levels focus on reducing emissions of hydrocarbons and nitrogen oxides throughout the region.

STATE ONE-HOUR OZONE STANDARD

The State government has established ambient air quality standards for ground level ozone (and other air pollutants) that are intended to protect human health from adverse effects. Air quality standards define the maximum amount of a pollutant that can be present in outdoor air without harm to public health. The standards are generally set at levels low enough to protect even the most sensitive individuals in our communities. State standards are set by the California Air Resources Board (ARB). The California one-hour ozone standard is set at 0.09 parts per million (ppm). In April 2005, ARB established a new eight-hour average ozone standard of 0.070 ppm. ARB plans to retain the current one-hour State ozone standard and is currently working on designations and implementation guidance for the new eight-hour standard.

The Air District operates a network of air quality monitoring stations throughout the region to constantly monitor air quality conditions. Data from the air monitoring stations allow the Air District to determine whether the region meets ambient air quality standards and to track progress in improving air quality.

An exceedance of the State one-hour standard occurs if the average ozone concentration measured over a one-hour period at any Air District monitoring station is higher than the standard. In recent years, the State standard has been exceeded an average of 16 days per year. In 2004 and 2005, there were seven and nine days over the State one-hour ozone standard, respectively.

PURPOSE AND ORGANIZATION OF THE 2005 OZONE STRATEGY

The most recently adopted Bay Area plan for the State ozone standard was the 2000 Clean Air Plan (or "2000 CAP"). With the 2005 Ozone Strategy the Air District is addressing the planning requirements for the State one-hour ozone standard as identified in the CCAA and transport mitigation regulations.

Section 1 of the 2005 Ozone Strategy provides an introduction and general overview of the document. Section 2 addresses State one-hour ozone planning requirements and consists of the region's triennial update to our strategy to achieve the California one-hour ozone standard. Section 3 discusses various ozone-related air quality issues of concern to the Air District and the public. It also describes the environmental review process as well as the District's efforts to encourage and facilitate public involvement in the development of the ozone strategy. Appendices provide detail on the public involvement process, control measure review and evaluation process, control measure descriptions, further study measures, and other technical support information.

STATE PLANNING REQUIREMENTS

Because the San Francisco Bay Area violates the State one-hour ozone standard, the region is considered a nonattainment area for the State standard. The California Clean Air Act requires regions that do not meet the State ozone standard to prepare plans for attaining the standard and to update these plans every three years. These plans must include estimates of current and future emissions of the pollutants that form ozone and a control strategy that includes "all feasible measures" to reduce these emissions. The plans must also include measures to reduce transport of air pollutants to neighboring regions.

The first Bay Area plan for the State ozone standard was the 1991 Clean Air Plan. Subsequently, the Clean Air Plan was updated and revised in 1994, 1997, and 2000. Each of these triennial updates proposed additional measures to reduce emissions from a wide range of sources, including industrial and commercial facilities, motor vehicles, and "area sources" (scattered, individually small sources such as water heaters or paints and varnishes).

Section 2 of the 2005 Ozone Strategy is the latest triennial update to the Bay Area strategy to achieve the State one-hour ozone standard, including new control measures. The draft control measures (summarized in Section 2 and set forth in more detail in the appendices) are proposed to satisfy State ozone planning requirements.

ADDRESSING TRANSPORT REQUIREMENTS

The California Clean Air Act, as reflected in the California Health and Safety Code, includes planning requirements for regions that violate State air quality standards. State law and ARB regulations also require regions that transport pollution to other regions to mitigate such transport. ARB's Transport Mitigation Regulation includes State planning requirements for all nonattainment areas. To summarize the Transport Mitigation Requirements discussed above, the Air District must:

1. Adopt and implement all feasible measures.
2. Adopt and implement best available retrofit control technology (BARCT) for stationary sources.
3. Adopt a no net increase permitting program for sources above 10 tons per year.

4. Include measures to attain the standard in specified downwind regions.

The 2005 Ozone Strategy addresses all of the above. The requirements to adopt all feasible measures, and implement BARCT on all existing stationary sources are necessary for the Bay Area to meet both attainment planning and transport mitigation requirements. These requirements are addressed in the control strategy as well as through Air District rule development and permitting processes. With respect to the no net increase requirement, the Air District adopted a 10 ton/year no net increase requirement for ozone precursors in District Regulation 2, Rule 2: New Source Review on December 21, 2004. Regarding measures sufficient to attain the State ozone standard in specified transport areas, this is accomplished through the proposal to adopt all feasible measures as identified in the control strategy. As adoption of all feasible measures represents the most stringent control strategy that can be accomplished, this requirement is met with the approval of each triennial plan.

PREPARATION OF THE OZONE STRATEGY AND PUBLIC INVOLVEMENT

The 2005 Ozone Strategy has been prepared by the Air District, in consultation with MTC and ABAG. The preparation of the 2005 Ozone Strategy has involved many methods of public involvement including extensive public outreach throughout which staff explained the ozone planning process and solicited input from the public. More detailed information on the public involvement process is provided in both Section 3 and Appendix A of the 2005 Ozone Strategy. The Air District Board of Directors will consider adoption of the 2005 Ozone Strategy and, upon adoption, will transmit it to ARB for their review and approval.

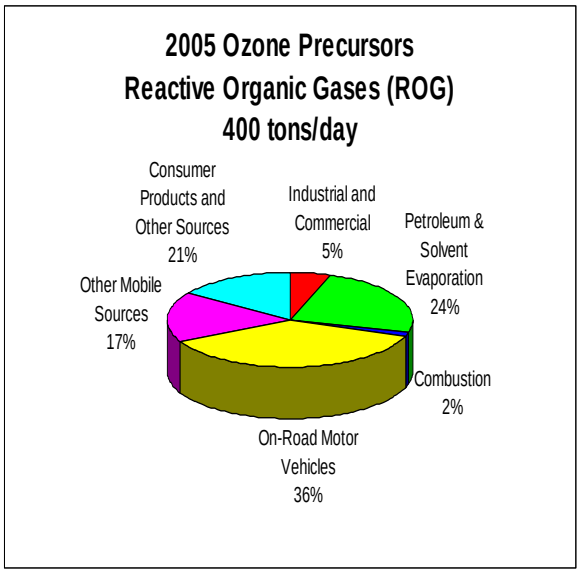
OTHER ELEMENTS

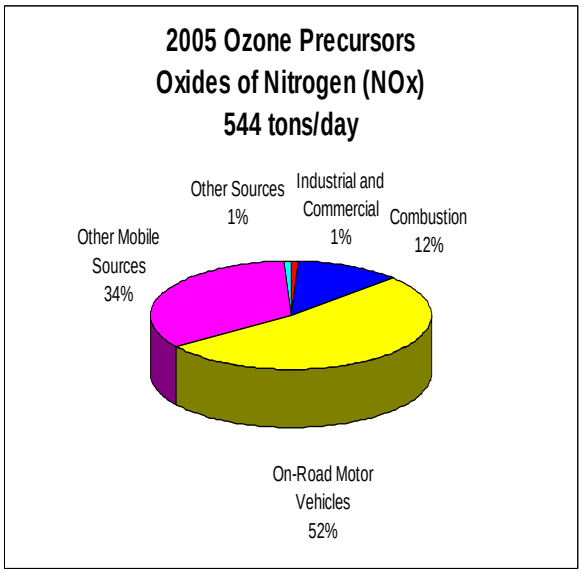
The 2005 Ozone Strategy also includes several other elements that are not required to attain the State one-hour ozone standard, but are related to ozone control efforts and are being included to help the public understand the relationship between ozone planning and other environmental programs. The Air District implements numerous programs that are related in some way to ozone planning, or are otherwise of interest to the Air District and the public. The 2005 Ozone Strategy discusses these related topics of interest, including:

- Public involvement process;
- Climate change and climate protection programs to reduce greenhouse gas emissions;
- Fine particulate matter (PM), its sources and health effects, and programs to reduce fine PM emissions;
- Community Air Risk Evaluation (CARE) program;
- Local benefits of ozone control measures;
- National ozone standards, attainment status and related planning requirements;
- Photochemical modeling;
- Environmental review.

SOURCES OF OZONE PRECURSORS

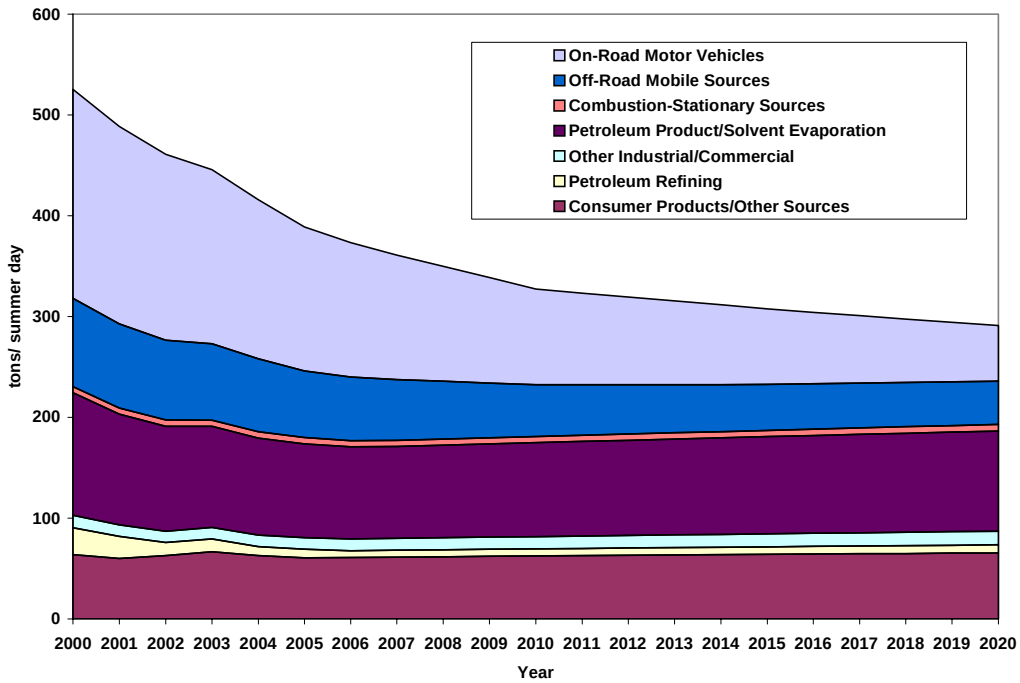
Ozone is formed in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NOX). The main sources of ROG are motor vehicles and evaporation of fuels, solvents and other petroleum products. NOX is produced mainly through combustion, and the major sources are motor vehicles and combustion at industrial and other facilities. The following figures show the major sources of ozone precursors in 2005.



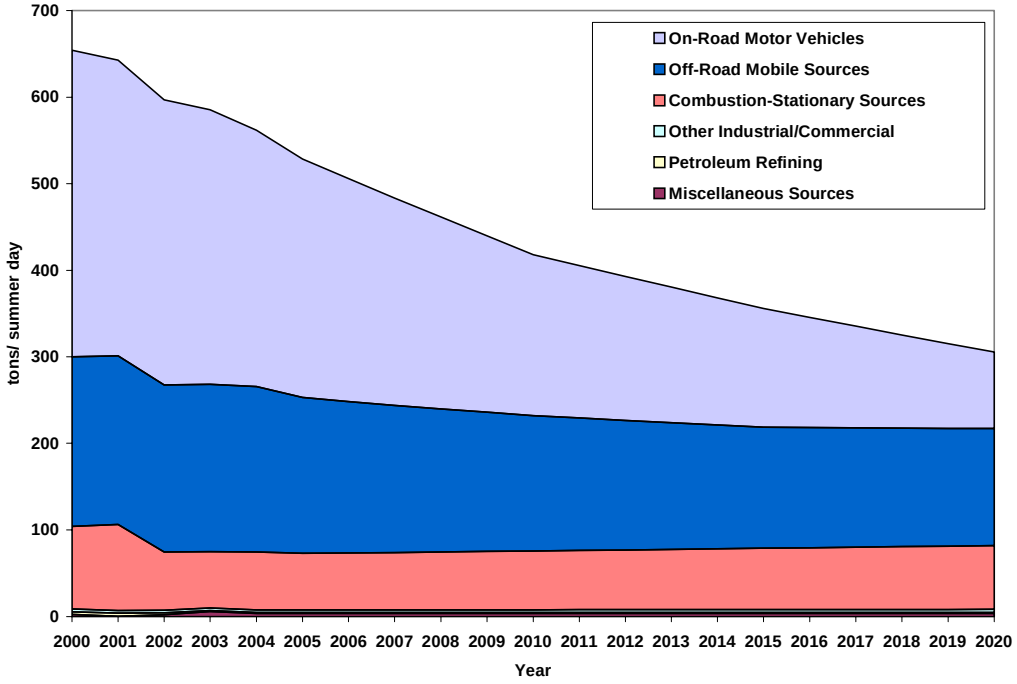


Future emissions of ROG and NOx will be considerably lower than the past and current inventory. The following figures show recent and future trends for ROG and NOx emissions, demonstrating that future emissions of ROG and NOx in the Bay Area will continue to decline in future years. These estimates provide further assurance that the region will continue to move towards attainment of the State one-hour ozone standard.

ROG Emissions Trend, 2000 – 2020



NOx Emissions Trend, 2000 – 2020

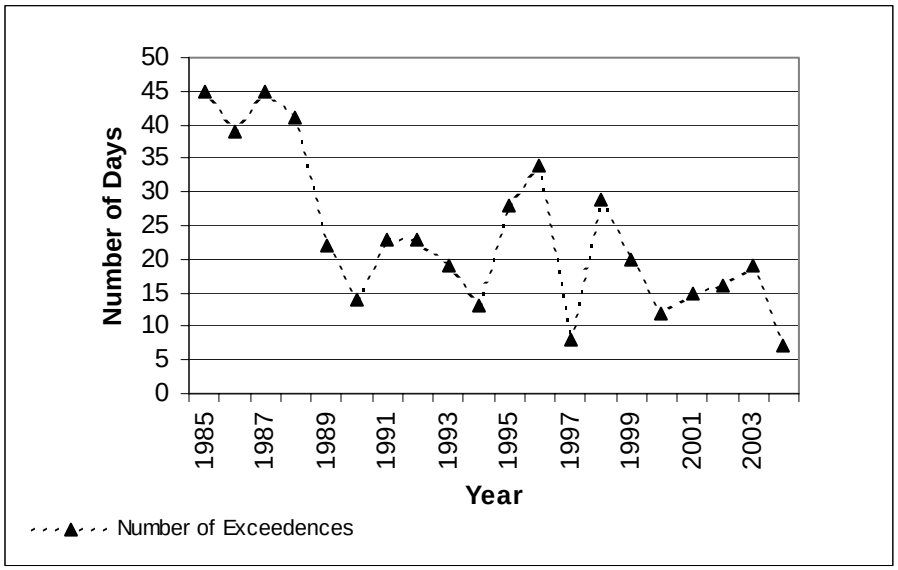


OZONE TRENDS

State law requires the Air District to assess its progress toward attainment of the State ozone standard during the most recent triennial period. The analysis in the Ozone Strategy examines progress made during the triennial period, 2000 to 2002, and from 1988 (the base year) to 2004.

Exceedances of the State ozone standard have diminished considerably since 1985. This improvement is due to substantial reductions in emissions of ozone precursors from stationary and mobile sources. For the three years considered in this triennial update, the Bay Area has had a fairly consistent number of exceedances of the State one-hour ozone standard. In 2000, the Bay Area recorded excesses of the State standard on 12 days. In 2001, the region recorded excesses of the State standard on 15 days. In 2002, the region recorded excesses of the State standard on 16 days.

Bay Area Exceedances of the State 1-hr Ozone Standard, 1985-2004



IMPLEMENTED CONTROL MEASURES

The Air District has a long history of implementing control measures to reduce ozone precursor emissions from stationary, area, mobile and transportation sources. The Air District implements stationary source measures, and many area source measures, by adopting or amending Air District rules and regulations. Since the first Bay Area Clean Air Plan was adopted in 1991, the Air District has adopted 55 rules and rule amendments to reduce ozone precursor emissions from stationary and area sources. The Air District, in cooperation with partner regional and local agencies, continues to make progress in reducing ozone precursor emissions from stationary, area, mobile, and transportation sources. Progress occurs through various means, including adoption and implementation of Air District rules as noted above, implementation of Air District incentive programs and public education programs, and transportation planning and programming processes.

The 2005 Ozone Strategy reports progress on implementing the control measures in the 2000 Clean Air Plan. Of the nine stationary source measures proposed in the 2000 Clean Air Plan, four were adopted (A1 Architectural Coatings, A5 Surface Preparation and Clean-Up Solvents, B2 Organic Liquid Storage, and C4 Process Vessel Depressurization), two are carried over in the control strategy in the 2005 Ozone Strategy (A21 Automobile Refinishing and A22 Wood Products Coating), and three are proposed for deletion (A23 Concrete Coating Operations, D8 Improved Residential Water Heater Rule and G3 Seasonal Limitations on Organic Liquid Storage Tank and Wastewater Separator Cleaning and Refinery Shutdowns). The Ozone Strategy includes a list of Air District rules adopted and implemented since 2000, with their associated emission reductions.

There were no Mobile Source Control Measures specifically identified as such in the 2000 Clean Air Plan, but the Air District has funded numerous clean air incentive programs during FY 00/01, FY 01/02, and FY 02/03 including:

- 271 school buses purchased or retrofited
- 9,769 older vehicles retired through the Vehicle Buy-Back program
- 68 bicycle projects funded

- 37 shuttle projects funded
- 58 low emission vehicle projects funded through the Carl Moyer program

TCM implementation is ongoing, and significant progress was made during 2001-2003 in implementing the nineteen TCMs in the 2000 Clean Air Plan. Details on TCM implementation progress is included in 2005 Ozone Strategy.

BAY AREA 2005 OZONE CONTROL STRATEGY

The control strategy outlines a program for further reducing ozone precursor emissions in order to reduce ozone levels in the Bay Area and reduce transport to neighboring regions. It is a central element of the 2005 Ozone Strategy.

The control strategy for the 2005 Ozone Strategy is to implement all feasible measures on an expeditious schedule in order to reduce emissions of ozone precursors. This is consistent with CCAA requirements in the Health and Safety Code and pollutant transport mitigation requirements in the California Code of Regulations. The following discussion summarizes the process for identifying and evaluating potential control measures and summarizes the draft control strategy, which includes stationary source measures, mobile sources measures and transportation control measures. The full control measure descriptions are included in the appendices to the Ozone Strategy.

STATIONARY SOURCE MEASURES

The following table outlines the stationary and area source measures proposed in the 2005 Ozone Strategy. Most of these control measures represent strengthening of existing Air District requirements, and would be adopted by amending existing Air District rules. More complete descriptions of the draft stationary source control measures are included in Appendix C of the Ozone Strategy.

Draft Stationary and Area Source Control Measures

CM #	BAAQMD Reg - Rule	Source Category	Description	Estimated ROG Reduction tons/day	Estimated NOx Reduction tons/day
Industrial – Commercial Processes					
SS-1	8-45	Auto Refinishing	Reduce VOC limits for some coating categories	0.7	
SS-2	8-20	Graphic Arts Operations	Reduce VOC limits for flexographic ink and clean up solvent	0.15	
SS-3		High Emitting Spray Booths	Require additional controls on spray booths that emit > 20 tons ROG/yr	0.5	
SS-4	8-50	Polyester Resin Operations	Reduce allowable monomer content for some types of polyester resins	0.3	
SS-5	8-32	Wood Coating Operations	Reduce VOC limits for some coating categories	0.68	
Petroleum Products Production and Distribution					
SS-6	12-12	Flares	Minimize flaring (ADOPTED 7/20/05)	TBD*	TBD*
SS-7	8-33, 39	Gasoline Bulk Terminals and Plants	Require automatic shutoff and backpressure monitors, set more stringent leak, emission standards	0.14	
SS-8	8-44, 46	Marine Loading Operations	Control additional cargoes, set more stringent leak standards and/or control housekeeping emissions	0.7 – 1.0	
SS-9	8-5	Organic Liquid Storage	Tighten existing requirements and/or control lower vapor pressure liquids	TBD*	
SS-10	8-28	Pressure Relief Devices	Improve enforceability of rule	0.001	
SS-11	8-8	Wastewater Systems	Control emissions from wastewater collection systems (ADOPTED 9/15/04)	2.1	
Combustion Processes					
SS-12	9-7	Industrial, Institutional and Commercial Boilers	Extend existing limits to smaller boilers and/or set a more stringent standard		0.5 – 1.0
SS-13	9-6, 7	Large Water Heaters and Small Boilers	Require new, small boilers and large water heaters to meet NOx limits		0.39
SS-14	9-9	Stationary Gas Turbines	Implement BARCT NOx limits on existing turbines		1.2
Education Programs					
SS-15		Energy Conservation	Educate government, industry and the public in energy efficient choices	unknown	unknown

*TBD – emissions reductions to be determined.

ANNUAL STATIONARY SOURCE REGULATORY AGENDA

Control measures are scheduled according to expected time to complete the rule development process based on data needs and other technical factors, as well as the need for participation in the rule development process by affected and interested parties. The amount of potential emissions reductions is a primary factor in determining the schedule, as well as the public acceptability of control measures, with due consideration for cost effectiveness and any adverse environmental impacts. The schedule is as expeditious as practicable. Any particular control measure may be advanced or delayed based on information discovered in the rule development process or Air District staff allocation priorities. Also, during the rule development process, it may be determined that a measure may not provide sufficient emission reductions to warrant regulation or may not be cost effective.

Regulatory Agenda, 2005 – 2007

2005 Regulatory Agenda

CM #	Control Measure (Reg and Rule)	ER Potential*
SS 6	Flares (Reg 12-12) (ADOPTED 7/20/05)	TBD
SS 8	Marine Loading Operations (Reg 8-44, 46)	0.7 – 1.0 tpd
SS 10	Pressure Relief Devices (Reg 8-28)	0.001

2006 Regulatory Agenda

CM #	Control Measure (Reg and Rule)	ER Potential*
SS 2	Graphic Arts Operations (Reg 8-20)	0.15 tpd
SS 7	Gasoline Bulk Terminals and Bulk Plants (Reg 8-33, 39)	0.14 tpd
SS 9	Organic Liquid Storage (Reg 8-5)	TBD
SS 13	Large Water Heaters and Small Boilers (Reg 9-6, 7)	0.39 tpd NOx
SS 14	Stationary Gas Turbines (Reg 9-9)	1.2 tpd NOx
SS 15	Energy Conservation	unknown

2007 Regulatory Agenda

CM #	Control Measure (Reg and Rule)	ER Potential*
SS 1	Auto Refinish Operations (Reg 8-45)	0.7 tpd
SS 3	High Emitting Spray Booths	0.5 tpd
SS 4	Polyester Resin Operations (Reg 8-50)	0.3 tpd
SS 5	Wood Products Coating (Reg 8-32)	0.68 tpd
SS 12	Industrial, Institutional and Commercial Boilers (Reg 9-7)	0.5 - 1.0 tpd NOx

* Emission Reduction, stated for ROG unless otherwise noted.

MOBILE SOURCE PROGRAMS

The term "mobile source," as used in the CCAA and by the Air District, refers collectively to vehicular sources and other non-stationary sources. Mobile sources are defined in the CCAA as self-propelled devices that may travel upon a highway, including automobiles, trucks, construction equipment, farm equipment, and off-road vehicles. "Non-vehicular" mobile sources, or "non-road" sources as they are defined in the federal Clean Air Act (CAA), include ships, boats, aircraft, locomotives, and lawn and garden equipment. Mobile sources are by far

the largest sources of ozone precursors in the Bay Area, so reducing mobile source emissions is crucial to our ability to attain and maintain compliance with air quality standards.

STATE AND NATIONAL MOBILE SOURCE PROGRAMS

The Air District does not have authority to regulate mobile sources. Mobile source regulatory authority is shared by the State and national governments. Hence, the State and national programs play a critical role in reducing air pollutant emissions from mobile sources.

Mobile source emissions are regulated by three general approaches: by establishing emission standards for equipment, by regulating the fuel used in the equipment, and through vehicle in-use performance standards. The federal CAA contains a special provision allowing California to set emission standards that are specific to the State. The California standards cover motor vehicles (including cars, motorcycles, and trucks), heavy industrial and construction equipment, off-highway vehicles such as dirt bikes and all-terrain vehicles, and lawn, garden and other utility engines. In California, these mobile sources are regulated primarily by ARB. ARB is authorized to adopt standards, rules and regulations to achieve the maximum degree of emission reduction possible from vehicular and other mobile sources in order to accomplish the attainment of the State ambient air quality standards.

The federal CAA prohibits all states, including California, from establishing emission standards for aircraft engines, new locomotive engines and new non-road engines less than 175 horsepower used in construction or farm equipment. Only EPA has authority to regulate these sources. EPA has promulgated regulations or otherwise established programs to control emissions from these important source categories.

In 1998, EPA adopted more stringent emission standards ("Tier 2" and "Tier 3") for NOx, hydrocarbons, and PM from new non-road diesel engines. This program includes the first set of standards for non-road diesel engines less than 50 hp, including marine engines in this size range. It also phases in more stringent "Tier 2" emission standards from 2001 to 2006 for all engine sizes and adds yet more stringent "Tier 3" standards for engines between 50 and 750 hp from 2006 to 2008.

In May 2004, as part of its Clean Diesel Programs, EPA finalized the Clean Air Non-road Diesel Rule, a comprehensive rule to reduce emissions from non-road diesel engines by integrating engine and fuel controls to optimize emission reductions. These fuel improvements will reduce PM from engines in the existing fleet of non-road equipment and makes it possible for engine manufacturers to use advanced emission control technologies.

State-established standards for motor vehicle engines and motor vehicles fuels significantly reduce mobile source ozone precursor emissions in the Bay Area. Among mobile source categories, Passenger Cars and Light Duty Trucks are the two largest contributors to the ROG emission inventory and are also significant contributors to the NOx emission inventory. ARB's more stringent regulations for new motor vehicle emissions, reformulated gasoline and smog check are some of the most significant programs for reducing ozone precursor emissions in the Bay Area.

Other national and State programs which are also important in reducing ozone precursor emissions in the Bay Area include those aimed at off-road diesel construction equipment. Heavy Heavy Duty Diesel Trucks and Construction Equipment are the largest emitters of NOx in the

Bay Area. ARB's diesel fuel regulations along with EPA's tiered emissions standards for non-road diesel engines will allow for significant emissions reductions over the next few years.

The following table summarizes projected emissions reductions due to national and State-regulated mobile sources. Between 2005 and 2020, ROG emissions will experience a 111 ton per day decrease and NOx emissions will experience a 232 ton per day decrease. Ninety eight percent of the ROG reduction will be in mobile sources regulated by ARB while over 87% of the NOx reductions will be in mobile sources regulated by ARB.

Mobile Source Emissions Reductions due to State (ARB) and National (EPA) Mobile Source Programs

SOURCE CATEGORY	Reduction 2005 to 2020	Reduction in ARB Regulated Sources	Reduction in EPA Regulated Sources
Reactive Organic Gases (tons/day)			
ON-ROAD MOTOR VEHICLES	87.8	87.8	0.0
OFF-HIGHWAY MOBILE SOURCES	26.0	20.8	5.2
AIRCRAFT (Emissions Increase)	-2.8	0.0	-2.8
Total Emissions Reductions	111.0	108.6	2.4
Oxides of Nitrogen (tons/day)			
ON-ROAD MOTOR VEHICLES	187.3	187.3	0.0
OFF-HIGHWAY MOBILE SOURCES	55.6	16.2	39.4
AIRCRAFT (Emissions Increase)	-10.8	0.0	-10.8
Total Emissions Reductions	232.1	203.5	28.6

AIR DISTRICT MOBILE SOURCE PROGRAMS

The Air District does not have the authority to regulate mobile sources, but reduces mobile source emissions by providing grants or incentives to encourage the use of cleaner vehicles and fuels. The Transportation Fund for Clean Air (TFCA) is an Air District grant program that funds both mobile source and transportation control measures implemented by local public agencies. To fund these measures the State Legislature allows the Air District to impose a $4 surcharge on motor vehicle registration fees paid for vehicles registered in the District. Mobile source measures funded through the TFCA program include purchase or lease of clean fuel vehicles, as well as engine retrofits and repowers. Another TFCA-funded program, the Vehicle Buy Back Program, accelerates the voluntary retirement of older, high emitting vehicles from the region's roadways by providing financial incentives to scrap them.

The Carl Moyer Program provides incentives that cover the incremental cost of cleaner heavy-duty engines. Among the eligible projects are cleaner on-road, off-road, marine, locomotive and stationary agricultural pump engines, as well as forklifts, airport ground support equipment, and auxiliary power units. The Air District also has grant programs for low emission school buses and heavy-duty diesel PM10 filter retrofits.

The Air District also reduces mobile source emissions through the Spare the Air (STA) program. The STA program is an intermittent, voluntary control program in which the Air District encourages Bay Area residents, businesses and public agencies to reduce or postpone polluting activity on days when weather conditions are conducive to forming high ozone levels. STA advisories include recommendations to avoid discretionary driving, to use transit, carpooling, walking or cycling instead of driving alone, to link trips to avoid cold starts, and postpone refueling of vehicles.

In addition to State and federal regulations and Air District incentive and STA programs, the Ozone Strategy includes control measures that further reduce emissions from on-road and off-road mobile sources. These control measures encourage the retirement of older, more-polluting equipment and the introduction of new, less-polluting equipment, or encourage operational changes (e.g. reduced idling) to reduce emissions. The measures would be implemented mainly through incentive programs and through development and promotion of model ordinances for cities and counties. The table below contains a summary of the proposed mobile source control measures, including their proposed implementation dates and estimates of the emission reductions they would achieve. While the focus of the Ozone Strategy is on reducing emissions of ozone precursors, many of the measures will also reduce emissions of fine particulate matter. More detailed information on the control measures is available in Appendix C of the Ozone Strategy.

Draft Mobile Source Control Measures

Measure #	Source Category	Implementation Date	Estimated ROG Reduction (tpd)	Estimated NOx Reduction (tpd)
MS-1	Diesel Equipment Idling Model Ordinance	2006	0.13	1.96
MS-2	Green Contracting Model Ordinance	2006	N/A	N/A
MS-3	Low-Emission Vehicle Incentives	2005	0.03	0.6
MS-4	Vehicle Buy-Back Program	2005	0.48	0.31

TRANSPORTATION CONTROL MEASURES

Motor vehicles are the largest source of ozone precursors in the Bay Area, and reducing these emissions is essential to regional efforts to attain the State ozone standard and reduce transport. Motor vehicle emissions have dropped substantially over the years thanks to State and national regulations on vehicles and fuels, and motor vehicle emissions are expected to continue to decrease in the future as the vehicle fleet becomes cleaner. Transportation control measures (TCMs) play a critical role in complementing State and national regulatory efforts by reducing motor vehicle use.[1] TCMs also help achieve other goals, including improved mobility and reduced congestion.

[1] TCMs are distinguished from mobile source measures in that mobile source measures reduce vehicle *emission rates*, while TCMs reduce vehicle *use* by reducing vehicle trips and/or vehicle miles traveled.

TCM Development in the Bay Area

The Bay Area has extensive experience with developing and implementing TCMs. The first regional plan prepared pursuant to the CCAA, the 1991 Clean Air Plan, included 23 TCMs to meet State planning requirements. Plan updates in 1994 and 1997 included thorough revisions to the TCMs. The 2005 Ozone Strategy contains 19 TCMs that cover the full spectrum of transportation strategies, including:

- Bus transit
- Rail transit
- Ferry service
- Carpooling and vanpooling
- Bicycle and pedestrian enhancements
- Land use programs
- Pricing measures
- Traffic management
- Employer programs and youth programs
- Public education and episodic measures

The Air District, MTC and other regional and local partners have worked together over the years to develop one of the most comprehensive TCM plans in California to address the State ozone standard. This effort has continued during the preparation of the 2005 Ozone Strategy.

The control measure review and development process included a thorough review of potential TCM enhancements. MTC and Air District staff considered a wide range of new or enhanced TCM programs, including:

- New initiatives deriving from the Smart Growth Strategy/Regional Livability Footprint Project and MTC's Transportation 2030 process
- Input from the Ozone Working Group and community meetings
- Input from cities, counties, neighboring air districts and other public agencies
- Input from environmental, business and community groups
- Suggestions from staff and Advisory Council members
- Review of TCM programs in other regions

TCMs in the Control Strategy

The draft TCMs proposed in the 2005 Ozone Strategy are summarized in the following table and are described more fully in Appendix D. The following table includes near-term emission reductions estimates for 2006.

TCMs often have overlapping, complementary effects. For example, measures to enhance transit service, encourage development near transit, and improve bicycle and pedestrian safety all interact to make transit, walking and cycling more viable transportation options. Assumptions must be made about individual projects and programs when calculating emission reductions, but it is difficult to capture these synergistic effects.

TCMs have multiple benefits beyond air quality. In addition to reducing motor vehicle emissions, the projects and programs identified in the TCMs will improve mobility, especially for

people with limited access to automobiles, and reduce traffic congestion. Other benefits include reduced gasoline consumption, reduced emissions of greenhouse gases, and reduced water pollution from urban runoff.

Draft Transportation Control Measures

#	Title	ROG Reductions (tons/day) 2006	NOx Reductions (tons/day) 2006
TCM 1	Support Voluntary Employer Based Trip Reduction Programs	0.53	0.57
TCM 3	Improve Local and Areawide Bus Service	0.42	1.13
TCM 4	Improve Regional Rail Service	0.23	0.21
TCM 5	Improve Access to Rail and Ferries	0.17	0.15
TCM 6	Improve Interregional Rail Service	0	0
TCM 7	Improve Ferry Service	0	0
TCM 8	Construct Carpool/Express Bus Lanes on Freeways	0	0
TCM 9	Improve Bicycle Access and Facilities	0.04	0.03
TCM 10	Youth Transportation	0.11	0.09
TCM 11	Install Freeway Traffic Management System	0.04	0.11-0.12
TCM 12	Arterial Management Measures	0.06-0.12	0.06-0.11
TCM 13	Transit Use Incentives	0.02-0.12	0.02-0.10
TCM 14	Carpool and Vanpool Services and Incentives	0.01	0.01
TCM 15	Local Land Use Planning and Development Strategies	0.09	0.14
TCM 16	Public Education/Intermittent Control Measures	1.9 *	2.0 *
TCM 17	Conduct Demonstration Projects	0	0
TCM 18	Transportation Pricing Reform	0	0
TCM 19	Improve Pedestrian Access and Facilities	0.04	0.02
TCM 20	Promote Traffic Calming	0	0

* Emissions reduction figures for TCM 16: Public Education/Intermittent Control Measures were calculated in tons per day based on emissions reduced on Spare the Air days, which occur approximately 7 days per year.

FURTHER STUDY MEASURES

Further study measures are measures for which insufficient information was available during the development of the control strategy to allow the agencies to commit to them as control measures. A measure may be proposed for further study because of a lack of emissions data on the source targeted, because the cost effectiveness of control may be questionable, or because technology to control the source may not have been adequately demonstrated.

Further study measures will be evaluated as expeditiously as practicable. If the results of the study indicate that the measures are viable control measures, they will be considered for implementation as regulatory amendments or implemented programmatically. The following

table summarizes the draft further study measures. More detailed descriptions of the further study measures are provided in the Ozone Strategy Appendix E.

DRAFT FURTHER STUDY MEASURES

2005 Further Study Measures

FS #	Further Study Measure (existing Reg. and Rule, if any)*
FS 10	Refinery Wastewater Treatment Systems (Reg 8-8)

2006 Further Study Measures

FS #	Further Study Measure (existing Reg. and Rule, if any)*
FS 3	Commercial Charbroilers
FS 5	Food Product Manufacturing and Processing
FS 6	Livestock Waste
FS 9	Emissions from Cooling Towers
FS 13	Wastewater from Coke Cutting Operations
FS 15	Stationary Internal Combustion Engines (Reg 9-8)
FS 19	Free Transit on Spare the Air Days

2007 Further Study Measures

FS #	Further Study Measure (existing Reg. and Rule, if any)*
FS 1	Adhesives and Sealants (Reg 8-51)
FS 2	Architectural Coatings (Reg 8-3)
FS 4	Composting Operations
FS 7	Limitations on Solvents Based on Relative Reactivity
FS 8	Solvent Cleaning and Degreasing (Reg. 8-16)
FS 11	Vacuum Trucks
FS 12	Valves and Flanges (Reg. 8-18)
FS 14	NOx Reductions from Refinery Boilers (Reg. 9-10)
FS 16	Encourage Alternative Diesel Fuels
FS 17	Mitigation Fee for Federal Sources
FS 18	Indirect Source Mitigation Program
FS 20	Episodic Measures

* Indicates a source already subject to an Air District rule. Further study will evaluate the potential for additional emission reductions.

DRAFT ENVIRONMENTAL IMPACT REPORT

The 2005 Ozone Strategy is intended to and expected to benefit public health and the environment by reducing emissions of the air pollutants that form ozone. However, implementation of the proposed control measures could result in secondary environmental effects if, for example, any means used to reduce these emissions causes impacts to water, air quality, energy, hazards and hazardous materials, noise, public services and transportation. Therefore, the Air District, as the lead agency, has prepared a Draft Environmental Impact Report (DEIR) pursuant to the California Environmental Quality Act (CEQA).

The DEIR identifies potential secondary adverse environmental impacts that might result from the implementation of the proposed control measures in the 2005 Ozone Strategy, examines alternatives to the project, and indicates the manner in which significant effects can be mitigated or avoided.

CEQA PROCESS

The District issued a Notice of Preparation of a Draft Environmental Impact Report for the Ozone Strategy on April 2, 2004 and held a scoping meeting on April 20, 2004. The NOP and scoping meeting invited public comments identifying the range of actions, alternatives, significant effects and mitigation measures to be analyzed in depth in the EIR.

The Draft EIR was released for a 45-day public comment period on Friday, October 7, 2005. Comments received by 5pm, November 21, 2005 will be considered in the Final EIR.

The Final EIR for the Ozone Strategy, consisting of the Draft EIR, public comments received on the Draft EIR, and District responses to those comments, will be provided to the District Board of Directors when the Board considers certifying the Final EIR and adopting the Ozone Strategy, which is expected in December 2005.

DEIR FINDINGS

The DEIR has identified potentially significant impacts resulting from implementation of certain stationary and transportation control measures to aesthetics, localized air quality, biological resources, cultural resources, hazards and hazardous materials, transportation and traffic, and utilities and service systems.

Further details about these potential findings of significance as well as the entire DEIR document and the appendices can be downloaded at the following address, http://www.baaqmd.gov/pln/plans/ozone/ceqa_process/index.htm

NEXT STEPS

The Air District, MTC and ABAG are inviting public comment on the draft 2005 Ozone Strategy and Draft EIR. The agencies will be conducting one Ozone Working Group meeting and one Ozone Strategy community meeting to describe the draft documents to interested parties and to solicit public input.

Public comment on Draft Ozone Strategy will be received until 5pm, November 9, 2005.
Public comment on the Draft EIR will be received until 5pm, November 21, 2005.

Provide comments on Draft Ozone Strategy or DEIR to:

Suzanne Bourguignon
BAAQMD
939 Ellis Street
San Francisco, CA 94109
sbourguignon@baaqmd.gov or fax: 415-749-4741

The final Ozone Strategy and Final EIR expected to be presented to BAAQMD Board of Directors at public hearing on December 21, 2005.

For more information, visit the District's website, http://www.baaqmd.gov/pln/plans/ozone/